

BLM WINNEMUCCA FIELD OFFICE PROPOSED GRASSHOPPER CONTROL PROGRAM

The Nevada Bureau of Land Management (BLM) proposes to implement a crop protection program consistent with the United States Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS) Rangeland Grasshopper Cooperative Management Program Record of Decision dated April 20, 1987. This action meets the Purpose and Need set forth in the Rangeland Grasshopper Cooperative Management Program Final EIS of March, 1987 (APHIS FEIS 87-1). A copy of this document is available at the Nevada State Office and BLM Field Offices throughout the State for inspection.

The BLM continues to need to implement an integrated grasshopper/Mormon cricket control program in cooperation with APHIS. Extreme grasshopper population increases can occur during years favorable to their survival. High numbers of grasshoppers have caused and will continue to cause significant damage to agricultural crops adjacent to public lands. Grasshopper control is considered to be a beneficial program and is accepted by the public in the State of Nevada.

Integrated Pest Management (IPM) was identified as APHIS' preferred alternative in APHIS FEIS 87-1, was approved in APHIS' record of decision for that EIS, and is the primary basis for the Rangeland Grasshopper Cooperative Management Program. IPM includes chemical and biological controls, research on cultural/mechanical methods, data base development based on surveys to enhance outbreak prediction capabilities, and environmental monitoring. IPM allows for the flexibility necessary to deal with populations of grasshoppers and Mormon crickets that threaten cropland adjacent to infested rangeland. Although only malathion, carbaryl sprays, carbaryl bait, and *Nosema locustae* (a protozoan species specific to grasshoppers) were directly addressed in the EIS, IPM allows for the use of all operational available control methods and the integration into the program of new strategies as they develop and become available.

Although application of *Nosema locustae* included as part of the IPM program, *Nosema* is no longer readily available and therefore it is not expected to be used under the Proposed Action.

Acephate as a chemical spray is no longer labeled for rangeland use since its registration has not been kept current and its use will no longer be considered.

A new chemical developed after the 1987 EIS, is the insect growth regulator diflubenzuron. Diflubenzuron is a restricted use pesticide and is sold under the trade name Dimilin 2L (EPA Reg. No. 400-461). This chemical is proposed to be used on public lands in Nevada for the control of grasshoppers and Mormon crickets where appropriate and subject to the standard operational procedures identified in the APHIS EIS and those identified in Attachment 1.

Diflubenzuron (the active ingredient in Dimilin 2L) is a growth regulator that affects the formation and/or deposition of chitin in an insect's exoskeleton. When an insect larva or nymph is exposed to Dimilin 2L, the exoskeleton is weakened and the larva/nymph is unable to successfully molt.

APHIS has completed a Chemical Risk Assessment for Diflubenzuron Use in Grasshopper Cooperative Control Program, March 2000. This risk assessment discusses in detail Dimilin 2L application rates, methodology, and potential environmental effects. This risk assessment is available for review at any BLM office in Nevada.

A new method of chemical control for rangeland grasshoppers has been developed in which the rate of insecticide is reduced from traditional levels and untreated swaths (refuges) are alternated with treated swaths. This new strategy is called RAATs. RAATs works through chemical control, meaning grasshoppers are killed in treated swaths, and allows for predators and parasites preserved in untreated swaths to suppress grasshoppers. This integrated pest management can reduce the cost of control up to 50 percent. BLM is including this method of treatment in it's cooperative control program. Less insecticide in the environment lowers the risk to native species (including fish and wildlife), water quality, and humans. Untreated swaths provide a refuge for organisms with lower mobility than grasshoppers, and even those organisms that move into treated swaths will be largely unaffected unless they feed on foliage.

According to the risk characterization study, Dimilin is many times less toxic to terrestrial species and does not kill all species of insects. Malathion when compared to the use of Dimilin, applied in standard or Reduced Agent and Area Treatments (RAATs) application (sprayed in strips covering only 50 percent of the ground) represents approximately a 170 to 210 fold greater risk to mammals, a 260 to 330 fold greater risk to birds, a 77,000 to 97,000 fold greater risk to fish, and 11,000 to 14,000 fold greater risk to bees (Lockwood, 1999). Lockwood (1999) also found that compared to the proposed use of Dimilin, carbaryl in standard or RAATs applications represents a 220 to 430 fold greater risk to mammals, a 90 to 180 fold greater risk to birds, a 3,100 to 6,200 fold greater risk to fish, and a 2,400 to 4,900 fold greater risk to bees.

Dimilin 2L is applied at a recommended rate of 0.5 to 1.0 fluid ounce per acre, and applications may not exceed 1.0 fluid ounce per acre per year. Applications may be made anytime after grasshopper/Mormon cricket eggs begin to hatch with optimum results attained when the majority of nymphs have reached the second and third instar stage of development. Applying Dimilin 2L when grasshopper/Mormon crickets have reached the adult stage is ineffective. Dimilin 2L remains active on foliage for approximately one month and will continue to control grasshoppers/Mormon crickets that hatch later in the season. Dimilin 2L label instructions require that it not be applied within 500 feet of endangered aquatic invertebrates and prairie potholes containing water, or within 110 feet of temporary streams, ponds, and areas where surface water is present. The effects of Dimilin 2L on grasshoppers may not be seen until 3 to 7 days after treatment

The density of eight adult grasshoppers per square yard is used as the minimum population at which a control program is considered. In response to requests for treatment, APHIS/BLM would determine if an infestation of an economically critical level (eight or more grasshoppers per square yard) were present in the area of concern. Appropriate treatment would then be determined taking into account site-specific environmental factors.

Under the Proposed Action, the chemicals directly addressed in the 1987 FEIS (excluding acephate) and Dimilin 2L would be used in a crop protection program across Nevada. Although malathion can be used, it is the least desirable chemical because of its broad spectrum of impacted species and the potential impacts on the environment and sage grouse and obligate species. Treatment would be done in the most effective manner as determined by on-the-ground surveys and consultation between APHIS and BLM personnel. Each treatment project would be designed to provide for crop protection, subject to the standard operational procedures identified below. The location of treatment areas would generally be in strips of public lands not more than one-half mile wide, adjacent to agricultural cropland. All treatments would be considered on a case-by-case basis.

BLM Nevada would be interested in your views concerning the use of Dimilin 2 in its Grasshopper Cooperative Control Program. Environmental Assessments (EAs) in compliance with the National Environmental Policy Act (NEPA) will be prepared prior to any grasshopper/Mormon cricket treatment program. Please provide the Winnemucca Field Office with any information, issues or concerns you may have regarding the proposed use of Dimilin on public lands for consideration in the environmental assessments.

Please direct your comments to: Pete Christensen, Assistant Field Manager Renewable Resources, BLM Winnemucca Field Office, 5100 East Winnemucca Boulevard, Winnemucca, Nevada 89445. Comments must be received no later than May 26, 2000.

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STANDARD OPERATIONAL PROCEDURES

1. Only EPA approved chemicals authorized for the control of grasshoppers and Mormon crickets would be allowed when grasshopper infestations are of economic concern (8 or more per square yard).
2. A five hundred foot buffer zone would be maintained around all crops for which the insecticide being applied is not registered.
3. Application would not be made on municipal watersheds unless specifically requested in writing by the local governing bodies.
4. Chemicals would be applied by a licensed commercial applicator and in accordance with label directions.
5. Application would not be made directly to any water body, on humans, residences, livestock, permitted apiaries, or automobiles.
6. The Field Manager will review each site specific request for control to determine if additional environmental protective measures are needed.
7. Application will not be made in areas where biological control agents have been released to control noxious weeds and a buffer of 300 feet will be maintained from these areas